Subpart S—Hybrid III Six-Year-Old Weighted Child Test Dummy

SOURCE: 69 FR 42602, July 16, 2004, unless otherwise noted.

§ 572.160 Incorporation by reference.

(a) The following materials are hereby incorporated into this subpart S by reference:

(1) A drawings and specifications package entitled ''Parts List and Drawings, Part 572 Subpart S, Hybrid III Weighted Six-Year Old Child Test Dummy (H-III6CW, Alpha Version) April 13, 2004'', incorporated by reference in § 572.161 and consisting of:

(i) Drawing No. 167–0000, Complete Assembly, incorporated by reference in § 572.161;

(ii) Drawing No. 167–2000, Upper Torso Assembly, incorporated by reference in §§ 572.161, 572.164, and 572.165 as part of a complete dummy assembly;

(iii) Drawing No. 167–2020 Revision A, dated December 8, 2005, Spine Box Weight, incorporated by reference in §§ 572.161 and 572.165 as part of a complete dummy assembly;

(iv) Drawing No. 167–3000, Lower Torso Assembly, incorporated by reference in §§ 572.161, and 572.165 as part of a complete dummy assembly;

(v) Drawing No. 167–3010 Revision A, dated December 8, 2005, Lumbar Weight Base, incorporated by reference in §§ 572.161 and 572.165 as part of a complete dummy assembly; and

(vi) The Hybrid III Weighted Six-Year-Old Child Parts/Drawing List, incorporated by reference in § 572.161.

(2) A procedures manual entitled ''Procedures for Assembly, Disassembly, and Inspection (PADI) of the Hybrid III Six-Year-Old Weighted Child Test Dummy (H-III6CW), April 2004,'' incorporated by reference in § 572.161;

(3) The Director of the Federal Register approved those materials incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of the materials may be inspected at NHTSA's Technical Reference Library, 400 Seventh Street, SW., room 5109, Washington, DC, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.*

(b) The incorporated materials are available as follows:

(1) The Drawings and Specifications for the Hybrid III Six-Year-Old Weighted Child Test Dummy referred to in paragraph (a)(1) of this section are available in electronic format through the NHTSA docket center and in paper format from Leet-Melbrook, Division of New RT, 18810 Woodfield Road, Gaithersburg, MD 20879, (301) 670–0090.

(2) [Reserved]

[69 FR 42602, July 16, 2004, as amended at 70 FR 77338, Dec. 30, 2005]

§ 572.161 General description.

(a) The Hybrid III Six-Year-Old Weighted Child Test Dummy is defined by drawings and specifications containing the following materials:

(1) ''Parts List and Drawings, Part 572 Subpart S, Hybrid III Weighted Six-Year Old Child Test Dummy (H-III6CW, Alpha Version) April 13, 2004'' (incorporated by reference, see § 572.160),

(2) The head, neck, arm, and leg assemblies specified in 49 CFR 572 subpart N; and

(3) ''Procedures for Assembly, Disassembly, and Inspection (PADI) of the Hybrid III Six-Year-Old Weighted Child Test Dummy, April 2004'' (incorporated by reference, see § 572.160).

TABLE A

Component assembly [1]	Drawing No.
Complete assembly	167–0000.
Upper torso assembly	167–2000.
Spine box weight	167–2020 Rev. A.
Lower torso assembly	167–3000.
Lumbar weight base	167–3010 Rev. A.

[1] Head, neck, arm, and leg assemblies are as specified in 49 CFR 572 subpart N.

(b) Adjacent segments are joined in a manner such that except for contacts existing under static conditions, there is no contact between metallic elements throughout the range of motion or under simulated crash impact conditions.

(c) The structural properties of the dummy are such that the dummy must conform to Subpart S in every respect and Subpart N as applicable, before use

in any test similar to those specified in Standard 208, ''Occupant Crash Protection'' (49 CFR 571.208), and Standard 213, ''Child Restraint Systems'' (49 CFR 571.213).

[69 FR 42602, July 16, 2004, as amended at 70 FR 77338, Dec. 30, 2005]

§ 572.162 Head assembly and test procedure.

The head assembly is assembled and tested as specified in 49 CFR 572.122 (Subpart N).

§ 572.163 Neck assembly and test procedure.

The neck assembly is assembled and tested as specified in 49 CFR 572.123 (Subpart N).

§ 572.164 Thorax assembly and test procedure.

(a) *Thorax (upper torso) assembly.* The thorax consists of the part of the torso assembly shown in drawing 167–2000 (incorporated by reference, see § 572.160).

(b) When the anterior surface of the thorax of a completely assembled dummy (drawing 167–2000) that is seated as shown in Figure S1 is impacted by a test probe conforming to 49 CFR 572.127(a) at 6.71 ±0.12 m/s (22.0 ±0.4 ft/s) according to the test procedure specified in 49 CFR 572.124(c):

(1) The maximum sternum displacement relative to the spine, measured with chest deflection transducer (specified in 49 CFR 572.124(b)(1)), must be not less than 38.0 mm (1.50 in) and not more than 46.0 mm (1.80 in). Within this specified compression corridor, the peak force, measured by the probe in accordance with 49 CFR 572.127, must be not less than 1205 N (270.9 lbf) and not more than 1435 N (322.6 lbf). The peak force after 12.5 mm (0.5 in) of sternum displacement, but before reaching the minimum required 38.0 mm (1.46 in) sternum displacement limit, must not exceed an upper limit of 1500 N.

(2) The internal hysteresis of the ribcage in each impact as determined by the plot of force vs. deflection in paragraph (b)(1) of this section must be not less than 65 percent but not more than 85 percent.

(c) *Test procedure.* The thorax assembly is tested as specified in 49 CFR 572.124(c).

§ 572.165 Upper and lower torso assemblies and torso flexion test procedure.

(a) *Upper/lower torso assembly.* The test objective is to determine the stiffness effects of the lumbar spine (specified in 49 CFR 572.125(a)), including cable (specified in 49 CFR 572.125(a)), mounting plate insert (specified in 49 CFR 572.125(a)), nylon shoulder bushing (specified in 49 CFR 572.125(a)), nut (specified in 49 CFR 572.125(a)), spine box weighting plates (drawing 167–2020 Revision A), lumbar base weight (drawing 167–3010 Revision A), and abdominal insert (specified in 49 CFR 572.125(a)), on resistance to articulation between the upper torso assembly (drawing 167–2000) and the lower torso assembly (drawing 167–3000). Drawing Nos. 167–2000, 167–2020 Revision A, 167–3000, and 167–3010 Revision A, are incorporated by reference, see § 572.160.

(b)(1) When the upper torso assembly of a seated dummy is subjected to a force continuously applied at the head to neck pivot pin level through a rigidly attached adaptor bracket as shown in Figure S2 according to the test procedure set out in 49 CFR 572.125(c), the lumbar spine-abdomen assembly must flex by an amount that permits the upper torso assembly to translate in angular motion until the machined surface of the instrument cavity at the back of the thoracic spine box is at 45 ± 0.5 degrees relative to the transverse plane, at which time the force applied as shown in Figure S2 must be within 88.6 N ± 25 N (20.0 lbf ± 5.6 lbf), and

(2) Upon removal of the force, the torso assembly must return to within 9 degrees of its initial position.

(c) *Test procedure.* The upper and lower torso assemblies are tested as specified in 49 CFR 572.125(c), except that in paragraph (c)(5) of that section, the initial torso orientation angle may not exceed 32 degrees.

[69 FR 42602, July 16, 2004, as amended at 70 FR 77338, Dec. 30, 2005]

§ 572.166 Knees and knee impact test procedure.

The knee assembly is assembled and tested as specified in 49 CFR 572.126 (Subpart N).